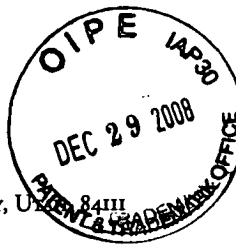




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COFC

PATENT
Docket No. 16585.6.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

William B. Busa

Serial No.: 09/768,686

Filed: Jan. 24, 2001

Confirmation No.: 3892

For: "METHOD AND SYSTEM FOR AUTOMATED
INFERENCE CREATION OF PHYSICO-CHEMICAL
INTERACTION KNOWLEDGE FROM DATABASES
OF CO-OCCURENCE DATA"

Examiner: Shubo (Joe) Zhou

Patent No.: 7,356,416 B2

Issue Date: April 8, 2008

Art Unit
1631

Certificate
DEC 30 2008
of Correction

REQUEST FOR A CERTIFICATE OF CORRECTION
UNDER 37 C.F.R. § 1.323

Attention: Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

12/29/2008 ETECLE1 00000011 7356416

01 FC:1811

100.00 OP

Dear Commissioner:

In accordance with the provisions of 37 C.F.R. § 1.323, which implements 35 U.S.C. § 255, the Director is respectfully requested to issue a Certificate of Correction to correct mistakes in the above-identified patent. The enclosed Patent Office Form PTO/SB/44 reflects the desired corrections.

Payment in the amount of \$100.00, as set forth in 37 C.F.R. § 1.20(a) is submitted herewith to cover the costs for issuance of the requested Certificate of Correction. The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178:

DEC 30 2008

(1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefore and charge any additional fees that may be required to Deposit Account No. 23-3178.

Dated this 23rd day of December 2008.

Respectfully submitted,

Scott A. Woodbury

Scott A. Woodbury
Attorney for Applicant
Registration No.: 55,743

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SAW:ftm
Enclosures
2218864v1

CERTIFICATE OF DEPOSIT UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to: Attention: Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 26th day of December, 2008

Respectfully submitted,

James D. Miller

Transmitted:

REQUEST FOR A CERTIFICATE OF CORRECTION UNDER 37 C.F.R. § 1.323
PTO Form PTO/SB/44 and check No. 101742 in the amount of \$100.00.

DEC 30 2008

**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**Page 1 of 8

PATENT NO. : 7,356,416 B2
APPLICATION NO. : 09/768,686
ISSUE DATE : April 8, 2008
INVENTOR(S) : William B. Busa

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 3

Line 23; change ““Bioknowledge Library” This’ to --“Bioknowledge Library.” This--

Column 5

Lines 16-17 change “checking automatically” to --automatically checking--

Column 8

Line 57, change “20 analysis.” to --analysis.--

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DEC 30 2008

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

Page 2 of 8

PATENT NO. : 7,356,416 B2
 APPLICATION NO. : 09/768,686
 ISSUE DATE : April 8, 2008
 INVENTOR(S) : William B. Busa

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 9

Replace Table 1 with the table depicted below, wherein "0 (serotonin 10 receptor)" in the twenty-fourth entry of the table has been changed to -0 (serotonin 1C receptor)- and multiple instances of "PI" in the forty-seventh entry of the table have been changed to -PI-

TABLE 1

UI -	98232076	
AU -	Rose L	
AU -	Busa WB	Crosslink between the phosphatidylinositol cycle and MAP kinase
TI -		Signaling pathways in Xenopus mesoderm induction.
LA -	Eng	
MH -	Animal	
MH -	Biological Markers	
MH -	Ca(2+)-Calmodulin Dependent Protein Kinase*physiology	
MH -	DNA-Binding Protein/biosynthesis/genetics	
MH -	Embryo, Nonmammalian/physiology	
MH -	Embryonic Induction*/physiology	
MH -	Fibroblast Growth Factor, Basic*/pharmacology	
MH -	Gene Expression Regulation, Developmental/drug effects	
MH -	Mesoderm/drug effects*/physiology	
MH -	Microinjections	
MH -	Phosphatidylinositol*/physiology	
MH -	Receptors, Serotonin/drug effects/genetics	
MH -	Recombinant Fusion Proteins/physiology	
MH -	Serotonin/pharmacology	
MH -	Signal Transduction/drug effects*/physiology	
MH -	Transcription Factors/biosynthesis/genetics	
MH -	Xenopus laevis*/embryology	
RN -	EC 2.7.10.- (Ca(2+)-Calmodulin Dependent Protein Kinase)	
RN -	0 (serotonin 1C receptor)	
RN -	0 (Biological Markers)	
RN -	0 (Bradykinin protein)	
RN -	0 (DNA-Binding Proteins)	
RN -	0 (Fibroblast Growth Factor, Basic)	
RN -	0 (Phosphatidylinositol)	
RN -	0 (Receptors, Serotonin)	
RN -	0 (Recombinant Fusion Proteins)	
RN -	0 (Transcription Factors)	
RN -	50-67-9 (Serotonin)	
PT -	JOURNAL ARTICLE	
DA -	19980706	
DP -	1998 Apr	
IS -	0012-1592	
TA -	Dev Growth Differ	
PG -	231-41	
SB -	M	
CY -	JAPAN	
IP -	2	
VI -	40	
IC -	E7Y	
AA -	Author	
EM -	199809	
AB -	Recent studies have established a role for the phosphoinositide (PI) cycle in the early patterning of Xenopus mesoderm. In explants, stimulation of this pathway in the absence of growth factors does not induce mesoderm, but when accompanied by growth factor treatment, simultaneous PI cycle stimulation results in profound morphological and molecular changes in the mesoderm induced by the growth factor. This suggests the possibility that the PI cycle exerts its influence via cross-talk, by modulating some primary mesoderm-inducing pathway. Given recent identification of mitogen-activated protein kinase (MAPK) as an intracellular mediator of some mesoderm-inducing signals, the present study explores MAPK as a potential site of PI cycle-mediated cross-talk. We report that MAPK activity, like PI cycle activity, increases in intact embryos during mesoderm induction. Phosphoinositide cycle stimulation during treatment of explants with basic fibroblast growth factor (bFGF) synergistically increases late-phase MAPK activity and potentiates bFGF-induced expression of Xbra, a MAPK-dependent mesodermal marker.	
AD -	Department of Biology, The Johns Hopkins University, Baltimore, MD	
	21218, U.S.A.	
PMID -	0009572365	
EDAT -	1998/05/08 02:03	
MHDA -	1998/05/08 02:03	
SO -	Dev Growth Differ 1998 Apr;40(2):231-41	

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UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

Page 3 of 8

PATENT NO. : 7,356,416 B2
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Column 11

Line 10, change "in included the set" to --included in the set--

Line 51, change "as to" to --to--

Column 14

Line 25, change "84" to --82--

Column 16

Line 42, change " $P(\neg A \mid \neg B) a$ " to -- $P(\neg A \mid \neg B) \equiv a$ --

Line 64, change "network 82" to --network 80--

Column 18

Line 51, change "molecules names" to --molecule names--

Column 19

Line 26, change "Node F," to --Node F 124,--

Line 29, change "122" to --124--

Column 20

Replace Table 4 with the table depicted below, wherein "WHERE Chem 1 = 'A'" has been changed to --WHERE Chem_1 = 'A'--

TABLE 4

```

SELECT Chem_2, Likelihood FROM Chem_Pairs
WHERE Chem_1 = 'F' AND Chem_2 IN
(SELECT Chem_2 FROM Chem_Pairs
WHERE Chem_1 = 'D' AND Chem_2 IN
(SELECT Chem_2 FROM Chem_Pairs
WHERE Chem_1 = 'A'))

```

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**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**Page 4 of 8

PATENT NO. : 7,356,416 B2
APPLICATION NO. : 09/768,686
ISSUE DATE : April 8, 2008
INVENTOR(S) : William B. Busa

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 21

Line 14, change "molecules names" to --molecule names--

Replace Table 5 with the table depicted below, wherein: "WHERE Chem_1 = '0' AND Chem_2 IN" has been changed to --WHERE Chem_1 = 'D' AND Chem_2 IN-- and the second: "(SELECT Chem_2 FROM Chem_Pairs)" has been changed to --(SELECT Chem_2 FROM Chem_Pairs)--

TABLE 5

	SELECT Chem_2, Likelihood FROM Chem_Pairs
	WHERE Chem_1 = 'D' AND Chem_2 IN
	(SELECT Chem_2 FROM Chem_Pairs
	WHERE Chem_1 = 'A')
And	
	SELECT Chem_2, Likelihood FROM Chem_Pairs
	WHERE Chem_1 = 'F' AND Chem_2 IN
	(SELECT Chem_2 FROM Chem_Pairs)

Column 23

Line 6, change "signal transduction.", ' to --"signal transduction,"--

Column 24

Line 50, change "construct" to --to construct--

Line 61, change "biological" to --checking biological--

Column 25

Line 10, change "embodiments in" to --embodiments--

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Page 5 of 8

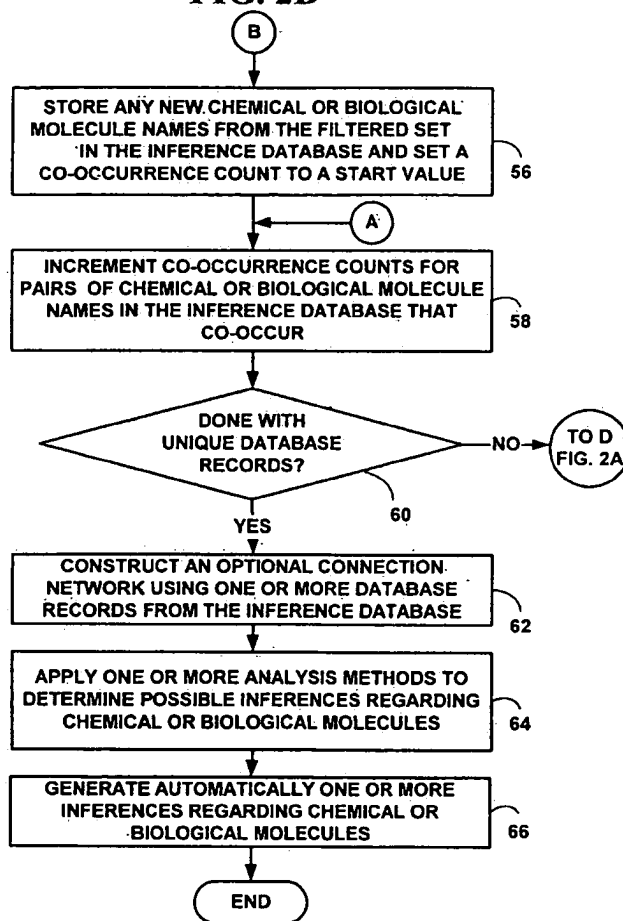
PATENT NO. : 7,356,416 B2
APPLICATION NO. : 09/768,686
ISSUE DATE : April 8, 2008
INVENTOR(S) : William B. Busa

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Drawings

Sheet 3, replace Fig. 2B with the figure depicted below, wherein in step 56 "IN THE IN THE" has been changed to -IN THE-

FIG. 2B



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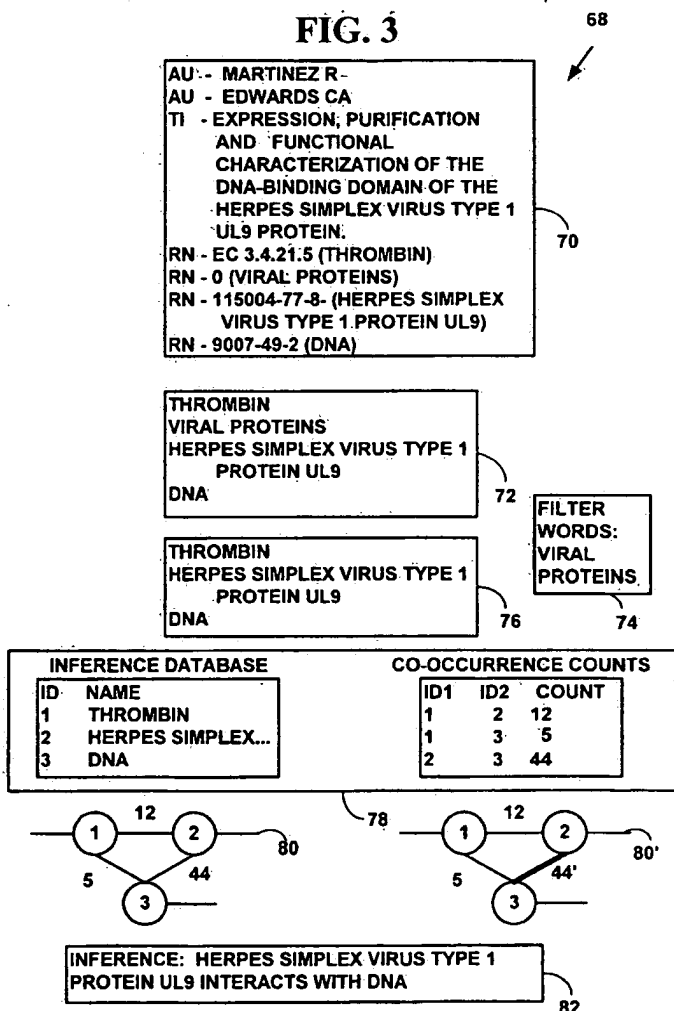
Page 6 of 8

PATENT NO. : 7,356,416 B2
APPLICATION NO. : 09/768,686
ISSUE DATE : April 8, 2008
INVENTOR(S) : William B. Busa

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Sheet 4, replace Fig. 3 with the figure depicted below, wherein in box 78, "4" has been changed to -5-

FIG. 3



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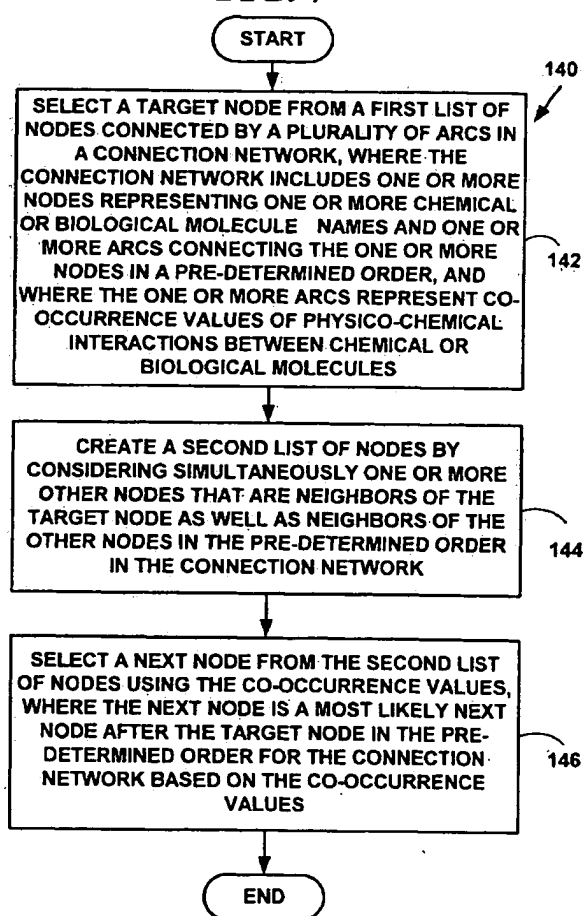
Page 7 of 8

PATENT NO. : 7,356,416 B2
APPLICATION NO. : 09/768,686
ISSUE DATE : April 8, 2008
INVENTOR(S) : William B. Busa

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Sheet 8, replace Fig. 7 with the figure depicted below, wherein in step 142 "MOLECULES NAMES" has been changed to -MOLECULE NAMES-

FIG. 7



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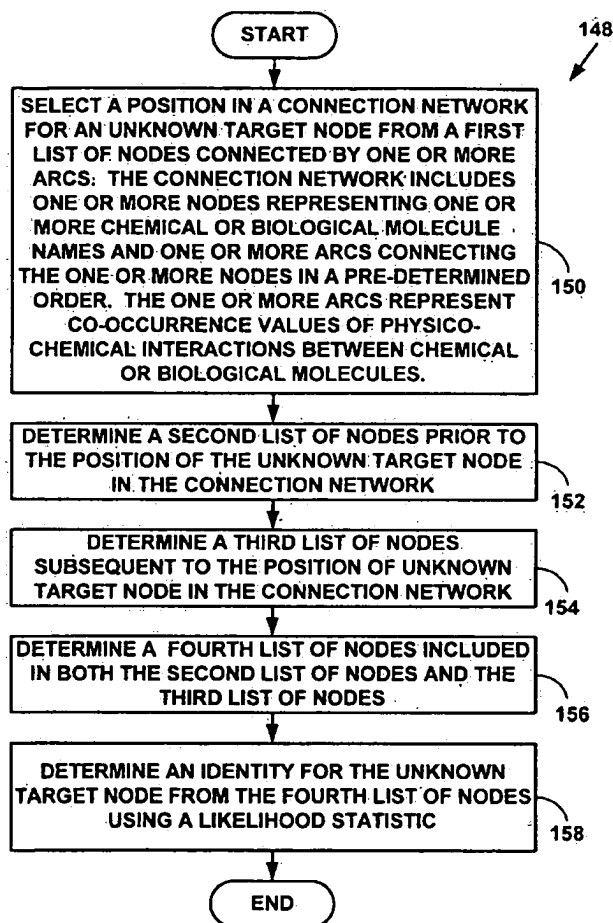
Page 8 of 8

PATENT NO. : 7,356,416 B2
APPLICATION NO. : 09/768,686
ISSUE DATE : April 8, 2008
INVENTOR(S) : William B. Busa

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Sheet 9, replace Fig. 8 with the figure depicted below, wherein in step 150: "MOLECULES NAMES" has been changed to -MOLECULE NAMES-

FIG. 8



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PATENT
Docket No. 16585.6.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

William B. Busa

Serial No.: 09/768,686

Filed: Jan. 24, 2001

Confirmation No.: 3892

For: *"METHOD AND SYSTEM FOR AUTOMATED
INFERENCE CREATION OF PHYSICO-CHEMICAL
INTERACTION KNOWLEDGE FROM DATABASES
OF CO-OCCURENCE DATA"*

Examiner: Shubo (Joe) Zhou

Patent No.: 7,356,416 B2

Issue Date: April 8, 2008

Art Unit
1631

REQUEST FOR A CERTIFICATE OF CORRECTION
UNDER 37 C.F.R. § 1.323

Attention: Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

In accordance with the provisions of 37 C.F.R. § 1.323, which implements 35 U.S.C. § 255, the Director is respectfully requested to issue a Certificate of Correction to correct mistakes in the above-identified patent. The enclosed Patent Office Form PTO/SB/44 reflects the desired corrections.

Payment in the amount of \$100.00, as set forth in 37 C.F.R. § 1.20(a) is submitted herewith to cover the costs for issuance of the requested Certificate of Correction. The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178:

DEC 30 2008

(1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefore and charge any additional fees that may be required to Deposit Account No. 23-3178.

Dated this 23rd day of December 2008.

Respectfully submitted,

Scott A. Woodbury

Scott A. Woodbury
Attorney for Applicant
Registration No.: 55,743

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Fax: 801-328-1707

SAW:ftm
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2218864v1

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Respectfully submitted,

James D. Miller

Transmitted:

REQUEST FOR A CERTIFICATE OF CORRECTION UNDER 37 C.F.R. § 1.323
PTO Form PTO/SB/44 and check No. 101292 in the amount of \$100.00.

DEC 30 2008

**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**

Page 1 of 8

PATENT NO. : 7,356,416 B2
APPLICATION NO. : 09/768,686
ISSUE DATE : April 8, 2008
INVENTOR(S) : William B. Busa

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Line 23, change ““Bioknowledge Library.” This’ to --“Bioknowledge Library.” This--

Column 5

Lines 16-17 change “checking automatically” to --automatically checking--

Column 8

Line 57, change “20 analysis.” to --analysis.--

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 2 of 8

PATENT NO. : 7,356,416 B2
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TABLE 1

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AU -	Rose L.	
AU -	Busa WB	
TI -	Crosstalk between the phosphatidylinositol cycle and MAP kinase signaling pathways in Xenopus mesoderm induction.	
LA -	Eng	
MH -	Animal	
MH -	Biological Markers	
MH -	Ca(2+)-Calmodulin Dependent Protein Kinase/physiology	
MH -	DNA-Binding Protein/biochemistry/genetics	
MH -	Embryo, Neumanian/physiology	
MH -	Embryonic Induction/physiology	
MH -	Fibroblast Growth Factor, Basic/physiology	
MH -	Gene Expression Regulation, Developmental/drug effects	
MH -	Mesoderm/drug effects/physiology	
MH -	Microinjections	
MH -	Phosphatidylinositol/physiology	
MH -	Receptors, Serotonin/drug effects/genetics	
MH -	Recombinant Fusion Proteins/physiology	
MH -	Serotonin/pharmacology	
MH -	Signal Transduction/drug effects/physiology	
MH -	Transcription Factors/biochemistry/genetics	
MH -	Xenopus laevis/embryology	
RN -	EC 2.7.10. (Ca(2+)-Calmodulin Dependent Protein Kinase)	
RN -	0 (serotonin 1C receptor)	
RN -	0 (biological markers)	
RN -	0 (bradykinin protein)	
RN -	0 (DNA-Binding Proteins)	
RN -	0 (Fibroblast Growth Factor, Basic)	
RN -	0 (Phosphatidylinositol)	
RN -	0 (Receptors, Serotonin)	
RN -	0 (Recombinant Fusion Proteins)	
RN -	0 (Transcription Factors)	
RN -	50-67-9 (Serotonin)	
PT -	JOURNAL ARTICLE	
DA -	19980706	
DP -	1998 Apr	
IS -	0012-1592	
TA -	Dev Growth Differ	
PG -	231-41	
SB -	M	
CY -	JAPAN	
IP -	2	
VI -	40	
IC -	E7Y	
AA -	Author	
EM -	199809	
AB -	Recent studies have established a role for the phosphoinositide (pi) cycle in the early patterning of Xenopus mesoderm. In explants, stimulation of this pathway in the absence of growth factors does not induce mesoderm, but when accompanied by growth factor treatment, simultaneous PI cycle stimulation results in profound morphological and molecular changes in the mesoderm induced by the growth factor. This suggests the possibility that the PI cycle exerts its influence via cross-talk, by modulating some primary mesoderm-inducing pathway. Given recent identification of mitogen-activated protein kinase (MAPK) as an intracellular mediator of some mesoderm-inducing signals, the present study explores MAPK as a potential site of PI cycle-mediated cross-talk. We report that MAPK activity, like PI cycle activity, increases in intact embryos during mesoderm induction. Phosphoinositide cycle stimulation during treatment of explants with basic fibroblast growth factor (bFGF) synergistically increases late-phase MAPK activity and potentiates bFGF-induced expression of Xbra, a MAPK-dependent mesodermal marker.	
AD -	Department of Biology, The Johns Hopkins University, Baltimore, MD	
	21218, U.S.A.	
PMID -	009572365	
EDAT -	1998/05/08 02:03	
MHDA -	1998/05/08 02:03	
SO -	Dev Growth Differ 1998 Apr;40(2):231-41	

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 3 of 8

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APPLICATION NO. : 09/768,686
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Column 11

Line 10, change "in included the set" to --included in the set--
Line 51, change "as to" to --to--

Column 14

Line 25, change "84" to --82--

Column 16

Line 42, change "P($\neg A \mid \neg B$) a" to -- P($\neg A \mid \neg B$) \equiv a--
Line 64, change "network 82" to --network 80--

Column 18

Line 51, change "molecules names" to --molecule names--

Column 19

Line 26, change "Node F," to --Node F 124,--
Line 29, change "122" to --124--

Column 20

Replace Table 4 with the table depicted below, wherein "WHERE Chem_1 = 'A'" has been changed to --WHERE Chem_1 = 'A'--

TABLE 4

```
SELECT Chem_2, Likelihood FROM Chem_Pairs
WHERE Chem_1 = 'F' AND Chem_2 IN
(SELECT Chem_2 FROM Chem_Pairs
WHERE Chem_1 = 'D' AND Chem_2 IN
(SELECT Chem_2 FROM Chem_Pairs
WHERE Chem_1 = 'A'))
```

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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 4 of 8

PATENT NO. : 7,356,416 B2
 APPLICATION NO. : 09/768,686
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 INVENTOR(S) : William B. Busa

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Replace Table 5 with the table depicted below, wherein "WHERE Chem_1 = '0' AND Chem_2 IN" has been changed to --WHERE Chem_1 = 'D' AND Chem_2 IN-- and the second "(SELECT Chem_2 FROM Chem_Pairs)" has been changed to --(SELECT Chem_2 FROM Chem_Pairs)--

TABLE 5

	SELECT Chem_2, Likelihood FROM Chem_Pairs
	WHERE Chem_1 = 'D' AND Chem_2 IN
	(SELECT Chem_2 FROM Chem_Pairs
	WHERE Chem_1 = 'A')
And	
	SELECT Chem_2, Likelihood FROM Chem_Pairs
	WHERE Chem_1 = 'F' AND Chem_2 IN
	(SELECT Chem_2 FROM Chem_Pairs)

Column 23

Line 6, change "signal transduction.", ' to --"signal transduction,"--

Column 24

Line 50, change "construct" to --to construct--

Line 61, change "biological" to --checking biological--

Column 25

Line 10, change "embodiments in" to --embodiments--

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Page 5 of 8

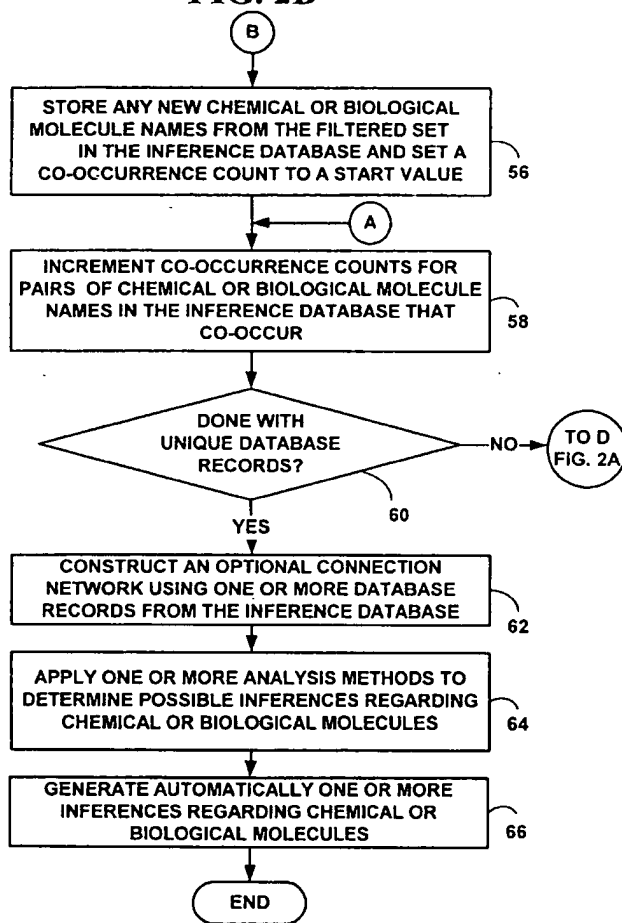
PATENT NO. : 7,356,416 B2
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ISSUE DATE : April 8, 2008
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Drawings

Sheet 3, replace Fig. 2B with the figure depicted below, wherein in step 56 "IN THE IN THE" has been changed to --IN THE--

FIG. 2B



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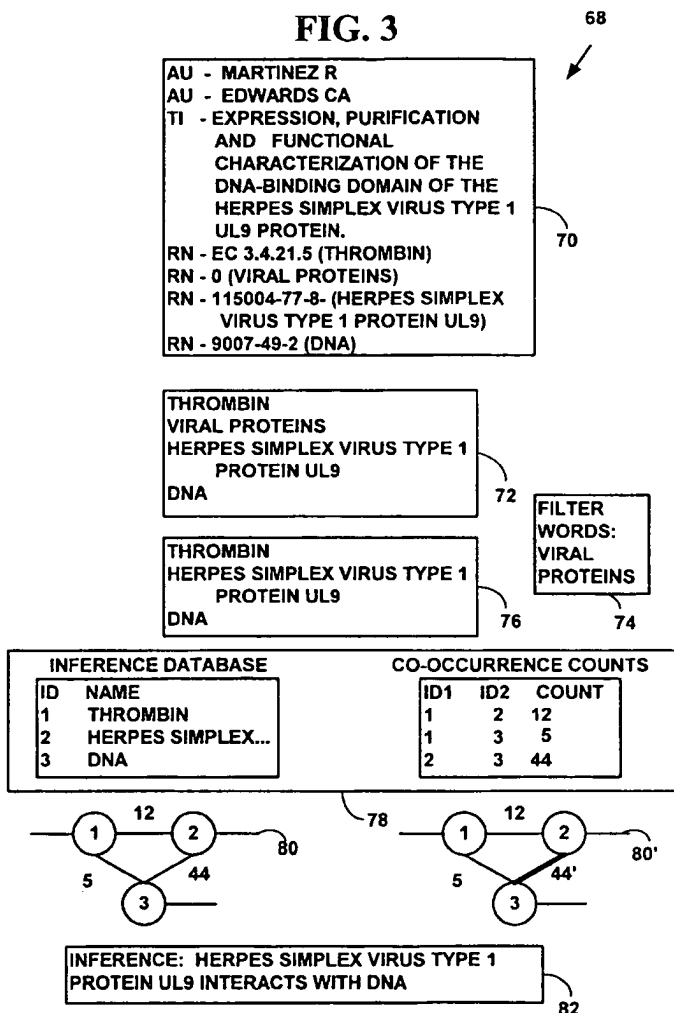
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Sheet 4, replace Fig. 3 with the figure depicted below, wherein in box 78, "4" has been changed to -5-

FIG. 3



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CERTIFICATE OF CORRECTION

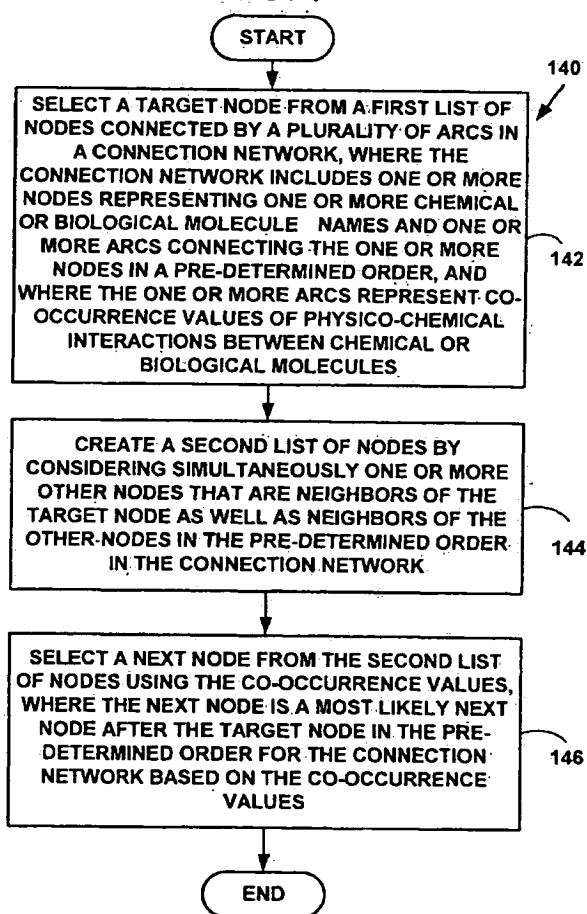
Page 7 of 8

PATENT NO. : 7,356,416 B2
APPLICATION NO. : 09/768,686
ISSUE DATE : April 8, 2008
INVENTOR(S) : William B. Busa

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Sheet 8, replace Fig. 7 with the figure depicted below, wherein in step 142 "MOLECULES NAMES" has been changed to --MOLECULE NAMES--

FIG. 7



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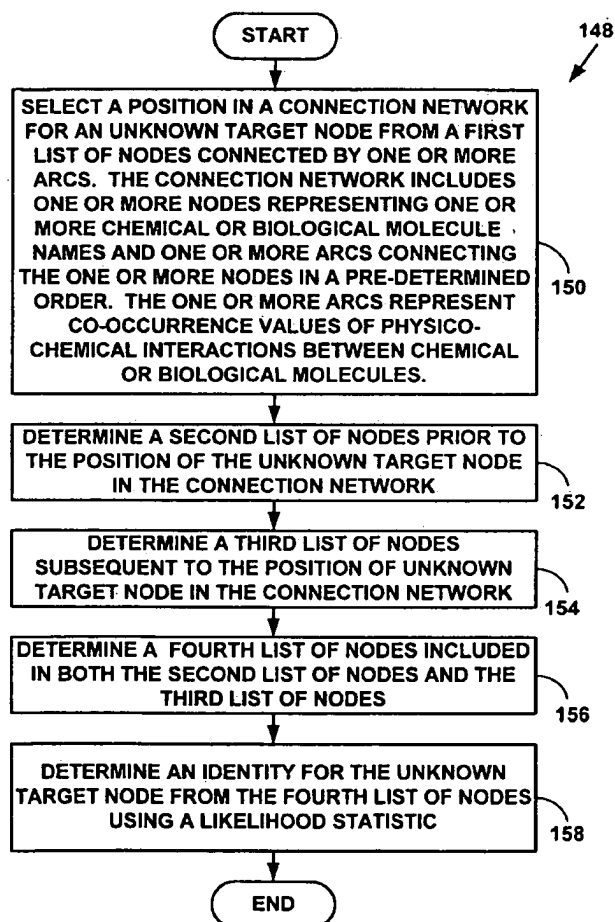
CERTIFICATE OF CORRECTION

Page 8 of 8

PATENT NO. : 7,356,416 B2
 APPLICATION NO. : 09/768,686
 ISSUE DATE : April 8, 2008
 INVENTOR(S) : William B. Busa

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Sheet 9, replace Fig. 8 with the figure depicted below, wherein in step 150 "MOLECULES NAMES" has been changed to --MOLECULE NAMES--

FIG. 8

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